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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,113	01/02/2002	Guillermo Savransky	42390P11319	1039
8791	7590	07/28/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN			COLEMAN, ERIC	
12400 WILSHIRE BOULEVARD			ART UNIT	
SEVENTH FLOOR			PAPER NUMBER	
LOS ANGELES, CA 90025-1030			2183	

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/039,113	SAVRANSKY ET AL.	
	Examiner	Art Unit	
	Eric Coleman	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 13-17 and 19-30 is/are rejected.
- 7) ☒ Claim(s) 6, 12 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

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Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-11, 13-17, 19,20, 23, 24, 27, 28, are rejected under 35

U.S.C. 102(e) as being anticipated by Tran (patent No. 6,604,190).

3. Tran taught (claims 1,7,13,19,23,27) the invention as claimed including a data processing ("DP") system comprising: providing a reorder buffer (216) comprising a plurality of entries associated respectively with a plurality of instructions (e.g., see col. 5, line 52-col. 6, line 55); executing a first instruction of the plurality of instructions that generate a first register value for a first real register, the first register value being stored in a first alias register identified in a first entry of said reorder buffer associated with said first instruction (e.g., see col. 5, line 52-col. 6, line 55); and determining whether the first register value should be copied from said first alias register to said first real register approximately at a time when said first entry of said reorder buffer is needed for a second instruction that is younger in order than said first instruction (e.g., see fig. 41,46, and col. 97, lines 40-56 and col. 98, lines 1-67).

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4. As per claims 2,8,14,20,24,28, Tran taught asserting a first valid data field of the first entry of the reorder buffer after execution of the first instruction but before the determining whether the first register value should be copied from the first alias register to the first real register, the asserted first valid data field indicates that the first register value is valid for copying from the first alias register to the first real register (e.g., see fig. 41,46, and col. 97, lines 40-56 and col. 73, line 58-col. 74, line 27). It would have been inherent that the Tran system would have read the value in the first valid data field in order to use that data for making the determination if data was to be copied.
5. As per claims 3,4,9,10,15,16, Tran taught reading the first valid data field in determining whether the first register value should be copied from the first alias register to the first real register; and copying the first value to the first real register if the first valid data field indicates that the first register value is valid for copying to the first real register (e.g., see fig. 41,46, and col. 97, lines 40-56).
6. As per claims 5,11,17, Tran taught Tran taught deasserting a second valid data field of a second entry of the reorder buffer, the second entry including a second alias register previously associated with the first real register, the deasserted second valid data field indicates that the second register value for copying from the second alias register to the first real register (e.g., see fig. 41,46, and col. 97, lines 40-56).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 21,22,25,26,29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tran.

9. Tran taught (claims 1,7,13,19,23,27) the invention substantially as claimed including a data processing ("DP") system comprising: providing a reorder buffer (216) comprising a plurality of entries associated respectively with a plurality of instructions (e.g., see col. 5, line 52-col. 6, line 55); executing a first instruction of the plurality of instructions that generate a first register value for a first real register, the first register value being stored in a first alias register identified in a first entry of said reorder buffer associated with said first instruction (e.g., see col. 5, line 52-col. 6, line 55); and determining whether the first register value should be copied from said first alias register to said first real register approximately at a time when said first entry of said reorder buffer is needed for a second instruction that is younger in order that said first instruction (e.g., see fig. 41,46, and col. 97, lines 40-56).

10. As per claims 21,25,29, Tran did not specifically detail de-asserting of the first valid data value field after determining that the first register value is valid for copying from the first alias register to the first real register. However since the after the copying of the data to the real registers there would have been a need to reuse the data line that stored the status bits for the stored data. Consequently one of ordinary skill would have been motivated to de-assert or clear the valid data value field.

11. As per claims 22,26, and 30 Tran did not expressly detail (e.g., see figs. 41,46) providing a data commitment table comprising a plurality of entries associated respectively with a plurality of real registers including a first entry associated with the first real register, the first entry including a committed data location to indicate whether a command register value is in the first real register; and asserting the data location field after it is determined that the first register value is valid for copying from the first alias register to the first real register, the asserted data location field indicating that the first register value is in the first real register. Tran however taught providing a table means for the keeping track of the loading and storing of cache entries (e.g., see col. 129, lines 19-48). Consequently one of ordinary skill would have been motivated to also provide a commitment table means for keeping track of the storing of data values from alias registers to real registers (fig. 41,46, and col. 67, lines 38-61 and col. 97, lines 40-56 and col. 72, lines 10-49).

Allowable Subject Matter

12. Claims 6,12,18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Levy (patent No. 6,314,511) disclosed a DP system with mechanism for freeing registers on processors that perform dynamic out of order execution of instructions using renaming registers (e.g., see abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Coleman whose telephone number is (703) 305-9674. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC


ERIC COLEMAN
PRIMARY EXAMINER

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